REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-3, 5-8, 11-13, 16 and 17 are pending in the present application. Claims 1, 2, 8, 11-13 have been amended and claims 9, 10, 14 and 15 have been canceled by the present amendment.

In the outstanding office action, claims 1 and 8-10 were rejected under 35 U.S.C. § 101; claims 1-3, 5-8, 9, 10, 14 and 15 were rejected under 35 U.S.C. § 112, second paragraph; and claims 1-3 and 5-17 were rejected under 35 U.S.C. § 103(a) as unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Jedwab et al. and Ramesh et al.

Regarding the rejection of claims 1 and 8-10 under 35 U.S.C. § 101, the appropriate claims have been amended in light of the comments noted in the Office Action. Accordingly, it is respectfully requested this rejection be withdrawn.

Further, regarding the rejection of claims 1-3, 5-8, 9, 10, 14 and 15 under 35 U.S.C. § 112, second paragraph, the Office Action indicates it is unclear how rows and columns of the binary equivalent matrix are m times rows and columns of the non-binary matrix or how symbols have a $GF(2^m)$ dimension. The following comments are provided to address this rejection.

Referring to the non-limiting example of Fig. 7 and the description beginning at page 10, line 20, the non-binary matrix on the left side of Fig. 7 includes symbols that are three bits in length. Thus, each element in the non-binary matrix includes a symbol having three

bits. Therefore, the symbol in the first row and first column in the non-binary matrix includes three bits. Thus, the non-binary matrix shown on the left side of Fig. 7 can be described as $GF(2^3)$, where in this case m equals 3. According to the present invention, the generated binary equivalent matrix (as shown on the right side of Fig. 7) includes row and columns which are m times rows and columns of the non-binary matrix, where symbols of the non-binary matrix have a $GF(2^m)$ dimension. Thus, when m = 3, the symbol in the first column and first row (which is a symbol including three bits, i.e., m = 3) is extracted into a 3 x 3 matrix (i.e., m times rows and columns of the non-binary matrix). As shown in the right side of Fig. 7, the 3 x 3 binary matrix in the upper left hand corner represents the symbol in the first column and first row on the left side of Fig. 1. This similar extraction is performed for the other symbols in the non-binary matrix in Fig. 7. See also the corresponding description in the invention.

Accordingly, in light of the above comments, it is respectfully requested this rejection be withdrawn.

Claims 1-3 and 5-17 stand rejected under 35 U.S.C. § 103(a) as unpatentable over AAPA in view of Jedwab et al. and Ramesh et al. This rejection is respectfully traversed.

The present invention currently includes independent claims 1-3, 6, 8 and 13. Each of these claims include the feature in which the generated binary equivalent matrix includes rows and columns which are m times rows and columns of the non-binary matrix, where symbols of the non-binary matrix have a $GF(2^m)$ dimension. The Office Action relies on Ramesh et al. as teaching this feature. However, it is respectfully noted Ramesh et al. merely

teaches the decoding of a data signal using a non-binary trellis diagram by designating binary butterfly trellises with the non-binary trellis. However, this does not correspond to the specific generated binary equivalents matrix including rows and columns which are m times rows and columns of the non-binary matrix, where symbols of the non-binary matrix have a $GF(2^m)$ dimension as described above with respect to the present invention.

Accordingly, it is respectfully submitted independent claims 1-3, 6, 8 and 13 and each of the claims depending therefrom.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, **Daniel Y.J. Kim**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is

hereby made. Please charge any shortage in fees due in connection with the filing of this,

concurrent and future replies, including extension of time fees, to Deposit Account 16-0607

and please credit any excess fees to such deposit account.

Respectfully submitted,
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